

## Claims

What is claimed is:

- [c1] A method for producing lenses, comprising:  
 assembling a plurality of glass rods having a desired length into a single unit;  
 cutting the single unit into multiple slices, each slice having a plurality of individual lenses;  
 finishing the slices to a desired thickness and surface finish; and  
 extracting the individual lenses from the slices.
- [c2] The method of claim 1, wherein assembling a plurality of glass rods comprises inserting the glass rods into a housing and filling the housing with a blocking medium.
- [c3] The method of claim 2, wherein extracting the individual lenses from the slices comprises removing the blocking medium from the slices.
- [c4] The method of claim 1, wherein assembling a plurality of glass rods comprises inserting the glass rods into a plurality of split rings spaced in a row and tightening the split rings around the glass rods.
- [c5] The method of claim 4, wherein extracting the individual lenses from the slices comprises loosening the split rings.
- [c6] The method of claim 1, wherein assembling a plurality of glass rods comprises arranging the glass rods in a row in between a mat.
- [c7] The method of claim 6, wherein extracting the individual lenses from the slices comprises separating the mat from the lenses.
- [c8] The method of claim 6, wherein the mat comprises plastic film.
- [c9] The method of claim 6, wherein the mat comprises glass.
- [c10] The method of claim 1, wherein finishing the slices comprises lapping the slices.

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- [c11] The method of claim 1, wherein finishing the slices comprises polishing the slices.
- [c12] The method of claim 1, wherein finishing the slices comprises coating the slices with an anti-reflective material.
- [c13] The method of claim 1, wherein finishing the slices comprises forming a facet angle on at least one of the slices.
- [c14] The method of claim 13, wherein forming a facet angle on at least one of the slices comprises placing the slice in a fixture that orients a face of each lens in the slice at an angle.
- [c15] The method of claim 14, further comprising lapping the oriented faces of the lenses.
- [c16] The method of claim 14, further comprising polishing the oriented faces of the lenses.
- [c17] The method of claim 1, wherein the glass rod has a gradient refractive index.
- [c18] A method for producing gradient index lenses, comprising:  
 assembling a plurality of glass rods having a gradient refractive index into a single unit;  
 cutting the single unit into multiple slices, each slice having a plurality of individual lenses;  
 finishing the slices; and  
 extracting the individual lenses from the slices.
- [c19] A method for producing lenses, comprising:  
 assembling a plurality of glass rods having a desired length into a single unit;  
 cutting the single unit into multiple slices, each slice having a plurality of individual lenses;  
 finishing the slices to a desired thickness and surface finish;  
 coating the slices with an anti-reflective material;  
 cleaning the slices; and  
 extracting the individual lenses from the slices.